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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,681	07/09/2003	Jinsheng Gu	DOGO.P013	2576

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EXAMINER
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HARPER, LEON JONATHAN

ART UNIT	PAPER NUMBER
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2166

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/616,681	<b>Applicant(s)</b> GU ET AL.	
	<b>Examiner</b> Leon J. Harper	<b>Art Unit</b> 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to the application 10616681 filed on 7/9/2003.

Claims 1-13 are pending.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "the new byte streams" in line 5. There is insufficient antecedent basis for this limitation in the claim. The claim refers to a new byte stream and a first area of the new byte stream, but in line 5 it appears stream becomes streams. It is unclear if the plural "byte streams" is meant to refer to the singular byte stream introduced before or the "byte streams" is something new. Appropriate correction is required.

Claim 2 recites the limitation "the difference file" in line 23. There is insufficient antecedent basis for this limitation in the claim. In claim 2 there is no previous mention of a difference file. There is a mention of difference files but it is unclear if the difference file is referring to the plural "difference files" or if it is a new independent file. Appropriate correction is required.

Claim 3 recites the limitation "the difference file" in line 2. There is insufficient antecedent basis for this limitation in the claim. In neither claim 3 nor claim 2 the claim

upon which claim 3 depends is there a previous mention of a difference file. There is a mention of difference files but it is unclear if the difference file is referring to the plural "difference files" or if it is a new independent file. Appropriate correction is required.

Claims 4-10 recite the limitation "the difference file" in line 22. There is insufficient antecedent basis for this limitation in the claim. In claim 2 there is no previous mention of a difference file. There is a mention of difference files but it is unclear if the difference file is referring to the plural "difference files" or if it is a new independent file. Appropriate correction is required.

Claim 6 recites the limitation "one second LCS" in line 5. There is insufficient antecedent basis for this limitation in the claim. In neither claim 6 nor claim 4 the claim upon which claim 6 depends is there a mention of a first LCS or even LCS.

Claims 11,12 recite the limitation "replacement content" in line 13. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether this replacement content is different from the replacement content that is identified in the line before. Examiner suggests adding "the" to the beginning if in fact the two replacement contents are the same.

Claim 13 recites the limitation "replacement content" in line 8. There is insufficient antecedent basis for this limitation in the claim. It is unclear whether this replacement

content is different from the replacement content that is identified in the line before.

Examiner suggests adding "the" to the beginning if in fact the two replacement contents are the same.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 4-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 4 is a method claim however, the language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Claim 4 is not tangible because all of the steps could be accomplished without the use of technology. Comparing two documents to determine which content was replaced and what is similar as defined by the claim does not require hardware.

Claims 5-10 are method claims which depend upon claim 4 however, none of the claims 5-10 fix the deficiencies of claim 4 and are thus rejected for the same reasons set forth in the 101 rejection of claim 4.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by US 20030212712 (hereinafter Gu).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

As for claim 1 Gu discloses: an optimizing system that generates difference files between an original byte stream and a new byte stream (See paragraph 0025) by identifying replacement content in a first area of the new byte stream (See paragraph 0028 note: delta file represents the differences), wherein the replacement content includes a group of bytes of the new byte streams identified as at least one of byte

insertions and byte replacements in an operation array (See paragraph 0027 note: the paragraph says any file can be represented as a byte stream), identifying content similarities between the replacement content and at least one of the original byte stream and a second area of the new byte stream and encoding information of the content similarities to the difference file (See paragraph 0032).

As for claim 2 Gu discloses: means for receiving an original byte stream that is a segment of an original file and a new byte stream that is a segment of a new file, wherein the new file includes an updated version of the original file (See paragraph 0032 “pre-processing is done on comment segments”); means for identifying replacement content of the new byte stream, wherein replacement content includes a group of bytes of the new byte stream identified as at least one of byte insertions and byte replacements in an operation array(See paragraph 0029); means for comparing the replacement content and portions of the new byte stream and identifying a first set of content similarities resulting from the comparison (See paragraph 0039); means for comparing the replacement content and portions of the original byte stream and identifying a second set of content similarities resulting from the comparison (See paragraph 0040 longest common suffix is the 2<sup>nd</sup> set); and means for generating the difference file by encoding information of the first set and second set of content similarities (See paragraph 0040 algorithm returns differences).

As for claim 3, the rejection of claim 2 is incorporated, and further Gu discloses: means for transferring the difference file to a remote system that hosts a copy of the original file, the remote system updating the hosted copy of the original file using the difference file (See paragraph 0030).

As for claim 4 GU discloses: receiving an original byte stream that is a segment of an original file and a new byte stream that is a segment of a new file, wherein the new file includes an updated version of the original file (See claim 1 "wherein the new file includes an updated version of the original file"); identifying replacement content of the new byte stream, wherein replacement content includes a group of bytes of the new byte stream identified as at least one of byte insertions and byte replacements in an operation array (See paragraph 0029 ); comparing the replacement content and portions of the new byte stream and identifying a first set of content similarities resulting from the comparison (See paragraph 0040 "longest common prefix); comparing the replacement content and portions of the original byte stream and identifying a second set of content similarities resulting from the comparison (See paragraph 0040 "longest common suffix); and generating the difference file by encoding information of the first set and second set of content similarities (See paragraph 0039).

As for claim 5, the rejection of claim 4 is incorporated and further Gu discloses: identifying at least one first largest common sub-string (LCS) of bytes in response to the comparison (See paragraph 0040 "longest common prefix ); and identifying the first set



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of content similarities between the replacement content and the new byte stream using the first LCS (See paragraph 0040 the substring is in common).

As for claim 6, the rejection of claim 4 is incorporated, and further Gu discloses: identifying at least one second LCS in response to the comparison (See paragraph 0040 "longest common suffix); and identifying the second set of content similarities between the replacement content and the original byte stream using the second LCS (See paragraph 0040 the substring is in common).

As for claim 7, the rejection of claim 4 is incorporated, and further encoding a first edit distance between the replacement content and portions of the new byte stream (See paragraph 0046); and encoding a second edit distance between the replacement content and portions of the original byte stream (See claim 23, note: there are two edit distances in claim 23).

As for claim 8, the rejection of claim 7 is incorporated, and further Gu discloses: comparing information including at least one of a number of bytes used to encode the first edit distance, a number of bytes used to encode the second edit distance, a number of bytes of the replacement content, and a degree of content similarity (See paragraph 0046).

As for claim 9 the rejection of claim 4 is incorporated, and further GU discloses: encoding a first edit distance between the replacement content and portions of the new byte stream and encoding a second edit distance between the replacement content and portions of the original byte stream; comparing a number of bytes used to encode the first edit distance to a number of bytes used to encode the second edit distance (See paragraph 0046); comparing the number of bytes used to encode the first edit distance to a length of the replacement content and a degree of content similarity (See paragraph 0066); and encoding information of the first set of content similarities when the number of bytes used to encode the first edit distance is less than or equal to the number of bytes used to encode the second edit distance and a quantity formed by dividing the number of bytes used to encode the first edit distance by the length of the replacement content is less then the degree of content similarity (See paragraph 0071).

As for claim 10, the rejection of claim 4 is incorporated, and further Gu discloses: encoding a first edit distance between the replacement content and portions of the new byte stream and encoding a second edit distance between the replacement content and portions of the original byte stream (See paragraph 0046); comparing a number of bytes used to encode the second edit distance to a number of bytes used to encode the first edit distance (See paragraph 0066); comparing the number of bytes used to encode the second edit distance to a length of the replacement content and a degree of content similarity; and encoding information of the second set of content similarities when the number of ' bytes used to encode the second edit distance is less than or equal to the

number of bytes used to encode the first edit distance and a quantity formed by dividing the number of bytes used to encode the second edit distance by the length of the replacement content is less than the degree of content similarity(See paragraph 0071.

As for claim 11 Gu discloses: a first device including a file differencing engine that generates differences between an original version and a new version of an electronic file by: receiving an original byte stream that is a segment of the original version and a new byte stream that is a segment of the new version (See paragraph 0028) identifying replacement content of the new byte stream, wherein replacement content includes a group of bytes of the new byte stream identified as at least one of byte insertions and byte replacements in an operation array (See paragraph 0029); comparing the replacement content and portions of the new byte stream and identifying a first set of content similarities resulting from the comparison(See paragraph 0039); comparing the replacement content and portions of the original byte stream and identifying a second set of content similarities resulting from the comparison (See paragraph 0040 "longest common suffix "); generating a difference file including encoded information of the first set and second set of content similarities; and a file updating engine hosted on the remote devices, the file updating engine generating a copy of the new version using the difference file (See paragraph 0039).

As for claim 12, the rejection of claim 11 is incorporated, and further Gu discloses: wherein the remote device includes at least one of cellular telephones,

portable communication devices, personal digital assistants, personal ' computers, and portable processor-based devices (See paragraph 0030 "computer system").

As for claim 13 Gu discloses: identifying replacement content of a new byte stream that is a segment of the new version (See paragraph 0028 note: delta file represents the differences), wherein replacement content includes a group of bytes of the new byte stream identified as at least one of byte insertions and byte replacements in an operation array (See paragraph 0029); comparing the replacement content and portions of the new byte stream and identifying a first set of content similarities resulting from the comparison(See paragraph 0039); comparing the replacement content and portions of an original byte stream and identifying a second set of content similarities resulting from the comparison(See paragraph 0040 "longest common suffix ), wherein the original byte stream is a segment of the original version; and generating the difference file by encoding information of the first set and second set of content similarities(See paragraph 0039).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. US 20030212712 A1

***Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon J. Harper whose telephone number is 571-272-0759. The examiner can normally be reached on 7:30AM - 4:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LJH  
Leon J Harper  
January 5, 2006

  
MOHAMMAD ALI  
PRIMARY EXAMINER